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# Massachusetts Strategic Plan
# To End Lead Poisoning By

Developed by the Massachusetts Department of Public Health
Center for Environmental Health
Bureau of Environmental Health Assessment
Childhood Lead Poisoning Prevention Program

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# Massachusetts Strategic Plan to End Lead Poisoning by 2010

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# Massachusetts Strategic Plan to End Lead Poisoning by 2010

## INTRODUCTION

For the past year, the Massachusetts Childhood Lead Poisoning Prevention Program (MACLPPP) has been building a foundation for the creation of a strategic elimination plan to end lead poisoning by 2010. MACLPPP hired a consultant, gathered data, developed methodologies and set the framework for strategic planning.

One of our main focuses was the convening of a working group to generate ideas, set priorities, and to make recommendations for policy and programmatic changes as needed. The diversity of individuals representing themselves and varied agencies have greatly improved our strategic planning process. We are grateful for their contributions, patience and interest in the process.

The outcomes of our strategic planning efforts will be incorporated into our day-to-day activities over the next several years. Holding advisory committee meetings and organizing focus groups will continue to be part of the implementation and evaluation process. We will also continue to analyze surveillance and environmental databases for changes in incidence and prevalence rates attributable to our elimination plan.

We look forward to publicizing the elimination plan, its intended outcomes, and its progress as we continue on our journey to end childhood lead poisoning.

# Massachusetts Strategic Plan to End Lead Poisoning by 2010

## CHILDHOOD LEAD POISONING IN MASSACHUSETTS

### A. An Overview of the Massachusetts Childhood Lead Poisoning Prevention Program (CLPPP)

The Childhood Lead Poisoning Prevention Program is a program of the Bureau of Environmental Health Assessment, Center for Environmental Health, Massachusetts Department of Public Health.

**History of CLPPP**

Since 1971, the Massachusetts Childhood Lead Poisoning Prevention Program (CLPPP) has been the primary administering and enforcing program in the Commonwealth for lead poisoning prevention services. The Massachusetts CLPPP Act of 1971 (MGLc.111, ss 189A-199B) is one of the nation's strongest and most comprehensive state laws addressing lead poisoning. Although the presence of lead in the environment has been reduced by government controls, individuals are still exposed to lead via the air they breathe, the water they drink, and the food and non-food substances they ingest. The prevalence of toxic lead in the environment, particularly in older housing, has been a continuing concern of health officials nationwide. Reducing or eliminating exposure to lead in paint and lead dust in residential housing continues to be the primary focus of CLPPP's regulatory and programmatic efforts.

In this state, all children under age six are considered at risk for lead poisoning. In accordance with the Massachusetts Lead Law, CLPPP provides a full range of prevention services to the children of the state, their families, and others with an interest in the prevention of childhood lead poisoning. CLPPP has an integrated program of laboratory services, medical case management, environmental follow-up, training and licensure of lead inspectors, and health education.

CLPPP provides a range of both primary and secondary prevention services in the following programmatic areas:

**Case Management**

Families whose children are identified with blood lead levels of 10-14 micrograms per deciliter (μg/dL) are sent educational information on lead poisoning prevention.

CLPPP provides individualized case management services to families of children with blood lead elevations of 15 μg/dL or greater. Case management nurses in regional offices throughout the state, and at the Boston Public Health Commission (BPHC), provide consultation to health care providers regarding treatment and follow-up and refer identified children for assessment and education. Regionally-based social workers provide crisis intervention and referrals for families with urgent needs. CLPPP also funds eight community-based agencies to provide outreach counseling to families of children with elevated lead levels. CLPPP's discharge protocol requires that a child continues in case management until his or her blood lead level is less than 10 μg/dL.

**Environmental Services**

CLPPP offers comprehensive environmental services, including lead paint inspections, tenant and owner education, and enforcement of the MA Lead Law. Lead paint inspections are offered to all families of children with blood lead elevations of 15 μg/dL or greater. An inspection is mandated in the homes of all lead poisoned children defined by regulation as children with elevations of 25 μg/dL or greater. CLPPP also inspects homes for lead paint violations upon request by tenants with children under six. Lead dust clearance is a required component of all lead abatement projects. CLPPP's environmental component also provides training, licensing and monitoring for several hundred public and private lead inspectors and has authorized more than 5000 individuals to perform low and moderate risk lead abatement.

**Health Education**

CLPPP funds eight local, grassroots organizations and three regional health educators to conduct community-based outreach to CLPPP's target populations, including parents, tenants, property owners, health care professionals, child care providers, real estate and banking professionals and other interested groups. CLPPP's health education efforts also include: public education via a toll-free hotline, maintaining a comprehensive website, provision of culturally appropriate informational materials in nine languages, targeted educational campaigns, special events and media planning. Two health education staff at the Boston Public Health Commission are supported by CLPPP through a CDC grant subcontract. The health education department has also taken a leadership role in strategic planning through the coordination of advisory committee meetings and facilitation of focus groups.

**Policy & Regulatory Development**

CLPPP is charged with primary responsibility for developing regulations and programs to put into effect and enforce Massachusetts' Lead Poisoning Prevention Law. As such, it designs, promulgates and administers the Commonwealth's Regulations for Lead Poisoning Prevention and Control. These regulations cover preventive and required lead inspection, abatement and enforcement, mandatory blood lead screening, lead inspector training and licensure, authorization of property owners and their agents to perform lead abatement, residential sale and rental lead disclosure and notification, and liability.

**Information Systems**

CLPPP data management staff provides detailed statistical information, which serves as the foundation for programmatic activity, policy decisions and evaluation. The Bureau of Environmental Health Assessment's Environmental Epidemiology Program has epidemiologists assigned to CLPPP for data analysis and program evaluation. CLPPP is able to identify and track children with blood lead elevations; ascertain trends in screening, prevalence, incidence and environmental activities resulting from both public and private lead inspection and abatement activities; and determine specific areas in which to focus program efforts. The CLPPP state-of-the-art Kyran database contains more than 3 million blood lead records and more than 300,000 address specific environmental records. New efforts targeted at monitoring residence exposure provides advanced awareness of potential lead exposure before a new child is exposed.

**Healthy Homes Initiative**

CLPPP's Healthy Homes initiative is dedicated to helping families reduce environmental hazards in the home that contribute to disease and injury, primarily among young children. It focuses on a wide range of hazards, including lead paint, poor indoor air quality, mold, pests, fire, structural defects and sanitary code violations. The principal services of this initiative include: home assessment and individual counseling on hazard reduction; community education and primary prevention; remediation planning, including assisting property owners and families with location of financial resources; and research on the efficacy of prevention strategies in reducing disease and injury. Healthy Homes staff also provide advocacy and training to professional communities about the Healthy Homes model and services offered by the program.

## B. MISSION STATEMENT

The Childhood Lead Poisoning Prevention Program (CLPPP) was established for the prevention, screening, diagnosis, and treatment of lead poisoning, including the elimination of sources of poisoning through research and educational, epidemiological, and clinical activities as may be necessary (M.G.L. Ch. 111 s 190). CLPPP provides a range of both primary and secondary prevention services to the children of the Commonwealth of Massachusetts, their families and others with an interest in the prevention of lead poisoning. In order to accomplish the fundamental goals of identifying lead poisoned children and ensuring that they receive medical and environmental services as well as preventing further cases of lead poisoning, CLPPP has developed linkages with a wide array of professionals and programs that provide services to children. CLPPP also provides coordinated and comprehensive nursing case management. To complete the prevention effort, residences that chronically expose young children can be identified before new families take residence.

## C. NEED

The Massachusetts Lead Law has been extraordinarily successful in reducing the incidence of lead poisoning in this state. From 1995 - 2003, the incidence rate of lead poisoning[1] dropped from 1.7 to 0.5 cases per 1000 children screened, with an average reduction in incidence of 18% per year for each of the last five years.[2] Between Fiscal Years 1999 – 2003, on average of 72% of Massachusetts children aged 9-48 months were screened, while in some high-risk communities up to 81% of children on average were screened. In some cities, including Boston (90%), 2003 screening rates approached or exceeded 90%.

Despite these successes, significant numbers of Massachusetts children remain at risk. Massachusetts possesses the nation's second oldest housing stock, with close to 68% of housing units built prior to 1970, and 44% built prior to 1950, when lead paint was still routinely used in home interiors.[3] Approximately 38% of Massachusetts homes are rental units, a statistic 13% higher than the national average.[4]

The Centers for Disease Control and Prevention's (CDC's) algorithm for ranking risk[5] places Massachusetts in the top third of states for risk of elevated blood lead levels (EBLLs). This model, based on NHANES III data, uses the 1990 Census to predict 14,400 Massachusetts children with EBLLs greater than 9 μg/dL; the actual number

[1] Defined by state regulation 105 CMR 460.000 at a lead level of 25 μg/dL or greater
[2] MACLPPP Screening and Incidence Statistics
[3] U.S. Bureau of the Census, Census 2000
[4] U.S. Bureau of the Census, Census 2000
[5] Appendices III and IV of CDC Program Announcement 03007

observed in Massachusetts in 1995 was 11,846 children. Given the 1995 screening rate of 65%, it is likely that the 1995 figures would have been even closer to the CDC prediction had the entire population of children been screened. Since that time, as Massachusetts has made significant strides in preventing lead poisoning, the CDC model is no longer as closely predictive. Massachusetts surveillance data from 2003 demonstrate that 2,289 Massachusetts children were confirmed with EBLLs. Similarly, the four largest Massachusetts cities, Boston, Worcester, Springfield, and Lowell, are predicted by CDC's statistical model to have a total of 5,000 children with EBLLs. Surveillance data demonstrates that in 1995, the actual number of children with EBLLs in these communities was 4,012; in 2003, the number was 783. Despite this obvious progress, the need for resources to continue this state's successful prevention programs is significant.

Between 1995 - 2003, Massachusetts data demonstrated 32,164 confirmed[6] elevated lead levels in children between the ages of 0-36 months and 19,738 confirmed elevated lead levels in children 37-72 months. In calendar year 2003, 1.0% (2,289 children) of the 235,894 Massachusetts children screened were confirmed with EBLLs of 10 μg/dL or above and received case management services from Massachusetts CLPPP.[7] Surveillance data from 1995 – 2003 for children 0-36 and 37-72 months is included as Appendix 1 of this application.

Over 55% (or 1,258) of Massachusetts children with confirmed EBLLs in 2003 reside in eight high-risk communities. For children with levels of 15 μg/dL or greater, a full two-thirds reside in one of the state's 18 high-risk communities. Within the city of Boston, geocoding has further identified neighborhoods where children are at greatest risk. In some Boston neighborhoods, the prevalence of EBLLs approaches 7% of the childhood population (see Appendix 2).[8] Although Boston accounted for 20% of the state's total of elevated children in 2003, six other Massachusetts cities have adjusted incidence rates higher than that in Boston, with a high in the city of Lawrence of 9.6 cases per 1000 children screened. These six other highest-risk cities alone are home to approximately 41,279 children under the age of 72 months.

MACLPPP has devoted significant resources towards its high-risk communities. In 2003, the overall screening rate for children 9-48 months was 80% in these high-risk areas, exceeding the statewide rate of 75%. At the same time, however, some of the most high-risk children are likely to be underscreened, and additional efforts are needed to reach this vulnerable population The most at need children are not found by conventional means.

Data obtained from MASS CHIP (a statewide database of demographic and health data)[9] indicates that, in the state's 18 FY02 high-risk communities, approximately 14% of the total population lives in poverty, and 15% are Medicaid recipients. Teenage mothers account for 11% of all births, 64% higher than the state average. Approximately 29% of women in these communities do not receive adequate medical care. For almost 17% of residents in these high-risk areas, English is not their first language, and many are likely

[6] Confirmed defined as in Appendix I of CDC Program Announcement 03007
[7] MACLPPP Screening and Incidence Statistics
[8] "Lead Safety Trends - Boston" Issue 1, September 2002
[9] See http://masschip.state.ma.us.

to be undereducated. Needs of this population range from the availability of multi-lingual health education materials, neighborhood-based health and housing services, targeted funding for remediation and technical assistance, and advocacy and referrals to other family support services. MACLPPP has developed a structure to meet a multiplicity of cross-cutting needs in a way that supports and empowers families.

# Massachusetts Strategic Plan to End Lead Poisoning by 2010

## METHODOLOGY

**Facilitated Advisory Committee Meetings**:
The advisory committee was convened to assist with the planning, implementation and evaluation process and was a critical aspect of the plan development. Members were asked to participate based on their diversity of knowledge and perspectives as well as their interest and commitment to create positive change in Massachusetts. Advisory committee members were made up of a diverse range of stakeholders including parents, epidemiologists, medical providers, realtors, landlords, lawyers and boards of health. (See *Appendix A* for a complete list of members.) Several methodologies were implemented to rank and prioritize ideas such as the SWOT Analysis (a systematic review of a program's strengths and weaknesses) and the Force Field Analysis (the diagramming of a problem based on the assumption that a situation is a temporary balance between opposing forces).

**Focus Groups (of property owners and parents):**
Due to the need to have a small working advisory group, only one representative from each stakeholder group was invited to participate on our Advisory Committee. Early in the planning process it was expressed that more data from property owner and parent populations would strengthen our plan. Focus group questions were developed and results of the 5 groups run across the state were incorporated within the strategic plan. (See *Appendix B.*)

**Key informant semi-structured interviews:**
There are many knowledgeable individuals and agencies that have worked together for many years towards the elimination of lead poisoning in Massachusetts. Our consultant, a former CLPPP health educator, worked with CLPPP staff and advisory committee members to seek out key community members, who were then contacted either by phone or in person and asked to share their perspectives. A total of 24 individuals, including those members who agreed to serve on the advisory committee, were sought out for their opinions and expertise regarding targeted strategies. (See *Appendix C.*)

**Community Surveys and Feedback**:
A strategic planning session was held with the community based Lead Poisoning Prevention Task Force of Western Massachusetts regarding the draft strategic plan. (See *Appendix C*.) In addition, as part of the implementation process, community members will be surveyed regarding which of the methods and ideas included in the strategic plan would be the best to focus on for their communities.

Strategic planning sessions using the exercises from Advisory Committee meetings were also held with all CLPPP staff and community grantees to gather information and generate ideas from people with expertise working in the field. (See *Appendix C*.)

# Massachusetts Strategic Plan to End Lead Poisoning by 2010

## PLAN ELEMENTS

## A. A Systems Approach to Primary Prevention

### Key Points

- *Increasing and Promoting Financing and Tax Credits*
- *Encouraging Effective Action by Property Owners*
- *Expanding the Capacity of Collaborating Agencies to disseminate lead poisoning prevention messages*
- *Integrating Lead Safety into Other Systems*
- *Increasing Public Information, Community Activities and Targeted Outreach*
- *Reviewing BEHA/CLPPP's Medical Standards and Educational Initiatives in the Medical Community*
- *Improving Inspector Training and Licensing*

### Overview

Primary prevention efforts that focus on compliance with the MA Lead Law and screening regulations are the cornerstone of CLPPP. Massachusetts leads the nation in lead poisoning prevention by maintaining a high screening rate[10], an unsurpassed commitment to preventative deleading, sustained support for 16 grantees serving high-risk communities, and a multifaceted, multilingual educational and public information structure. All of CLPPP's primary prevention activities are integrally connected to its health education, case management, epidemiology and environmental components, along with BEHA's Environmental Epidemiology program evaluation, and are designed to improve timely and appropriate care to targeted populations.

Our planning process revealed that CLPPP should increase educational efforts to targeted groups and focus its major energies on encouraging effective action by property owners and financing. Focus groups across the state reiterated the need to work with property owners. From a parent's perspective, many stated concerns that "*there is a lack*

[10] Unpublished CDC surveillance data prepared for 2003 MMWR report.

*of information for landlords,"* and that they know people who have had trouble renting apartments because landlords discriminate based on lead. Focus groups with property owners (who were all members of rental housing associations) clearly showed that it was less about the lack of information regarding their responsibilities, but rather their personal beliefs regarding the need to delead to current MA standards, the realities of the financial burden of deleading and the large amount of compliance paperwork inherent with the deleading process. And overall, property owners generally agreed with parents about the reality of discrimination. As a Boston property owner with 16 units stated "*The unfortunate thing about the lead paint program is it has caused a rampant, rampant atmosphere of discrimination in terms of the age of children and I think that is really the ironic result of the lead paint program is that it was instituted to protect families and has ended up hurting families more."*

There were also many reports of fear of the Lead Law by property owners, clearly undermining our ability to work together. As one property owner summed up "*There is no way on God's green earth that I would have an actual lead inspector come in, even if I just wanted to know for my own knowledge…I'm not going to have someone come in and put that on record (with the state) where I am compliance wise… at this point it is safer not knowing."*

Plan elements in need of continued action and future activities include:

*Increasing and Promoting Financing*

- Increasing the income eligibility requirements for financial assistance programs and revising the awards to better reflect deleading costs
- Providing financial assistance for making homes "lead-safer"
- Increasing the tax credit and providing a tax credit for "lead-safer" repairs, i.e. energy savings if windows are replaced

*Encouraging Effective Action by Property Owners*

- Addressing the perception of property owners that the Lead Law is "scary"
- Educating property owners about low and moderate risk deleading and maintaining compliance
- Encouraging property owners to hire lead safe renovators for renovation projects
- Reviewing the deleading authorization requirements for vacant units
- Making lead safe renovation training more widely accessible and translated in other languages
- Creating an awards program for compliant landlords
- Considering an expiration date on Letters of Compliance unless the residence is maintained

*Expanding the Capacity of Collaborating Agencies to Disseminate Lead Poisoning Prevention Messages*

- Increasing collaborations with agencies and organizations such as: Boards of Health, Office of Child Care Services, Dept. of Social Services, adoption agencies, prenatal

and newborn home visiting agencies, Dept. of Refugee and Immigrant Health, Home Improvement stores, the "Healthy Schools" initiative and the www.leadsafehomes website.

- Distributing of Lead Health Education Materials and Curriculums, in train the trainer format
- Including lead information in Massachusetts Association of Realtors (MAR's) magazine, e-mail newsletter and website
- Including lead education in licensing requirements of painters and contractors through the Department of Labor and Workforce Development (DLWD)
- Initiating more local media and *social norming* campaigns
- Providing lead education with building permits
- Including lead education in first time homebuyer programs
- Mailing lead information with quarterly tax bills
- Increasing awareness about lead safe homes through the website

*Integrating Lead Safety into Other Systems*

- Requiring products to include a lead warning label like the current requirement with paint cans (e.g. new windows)
- Creating lead dust clearance standards for use during post-renovation work, with home visiting agencies, at lease renewal and/or with family childcare providers
- Improving BEHA/CLPPP's ability to address discrimination by working with MCAD[11], AG's office and creating a tenant advocacy packet
- Looking at the efficacy of Property Transfer Notification and Certification delivery system
- Working with hardware stores on safe renovation themes

*Increasing Public Information, Community Activities and Targeted Outreach*

- Reviewing public information delivery system, including reviewing materials for cultural and literacy appropriateness
- Increasing lead awareness among parents
- Encouraging cooperation between tenants and landlords through community forums
- Creating a task force in every region
- Increasing lead awareness among foster parents
- Integrating lead education into prenatal and newborn home visiting programs
- Increasing awareness of safe renovation practices among home renovators
- Increasing lead safety in child care settings

[11] MACLPP is currently collaborating with the Attorney General's Office, and the Massachusetts Commission Against Discrimination (MCAD) to strategize ways to address discrimination issues.

- Increasing trainings at realtor and landlord meetings
- Engaging Non-Traditional Partners such as collaborating with lactation consultants, producers and sellers of nutritious foods, community banking resources, and railroad maintenance workers

*Improving Inspector Training and Licensing*

- Creating a listserv for private inspectors
- Providing continuing education for inspectors
- Giving BEHA/CLPPP the authorization to revoke licenses of unsafe individuals who have been authorized by CLPPP for low or moderate risk

*Reviewing BEHA/CLPPP's Medical Standards and Educational Initiatives in the Medical Community*

- Reviewing lowering the definition of lead poisoning[12] and the Blood Lead Level risk assessment used by providers
- Increasing education to medical staff regarding treatment and screening guidelines
- Creating a standardized health care documentation form for providers that includes lead screening information
- Creating an awards program for providers with high screening rates and sending reminder letters to providers with low screening rates
- Increasing the number of lead Grand Rounds and providing medical credits to providers who learn about lead poisoning
- Collaborating with immunization programs
- Revising and developing Standard Operating Procedures for services at 10 μg/dL or greater

[12] This issue is discussed in more detail under implementation. While several SAC members rank lowering the lead level as the highest priority, the Massachusetts Association of Realtors (MAR), CLPPP staff members and property owners are expressing concerns regarding its implementation and implications for homeowners, and affordable housing providers.

## B. Strategies for Targeting High-Risk Properties

### Key Points

- *Defining and Identifying High-Risk properties (GIS mapping)*
- *Reconsideration of MA Deleading Standards*
- *Increasing Educational Initiatives*
- *Increasing Enforcement through the Housing Code, AG's Office, HUD & EPA*
- *Increasing Enforcement through BEHA/CLPPP*

### Overview

CLPPP has consistently targeted its resources and attention to children at highest risk though the use of BLL data, mandatory deleading of poisoned childrens' homes, parental requests for inspection, requiring the compliance of all subsidized housing programs with the Lead Law, targeting financial assistance to high-risk communities, and training local code enforcement inspectors to include lead inspection in routine housing inspections. MACLPPP has also worked with its partners in agencies such as the Attorney General, HUD and its lead abatement grantees, Department of Labor, and other BEHA components.

Both the Strategic Advisory Committee (SAC) and property owner focus groups identified the need to modify deleading regulations and standards as a high priority. As one property owner with two letters of compliance explains: *"The law in itself …seems to be really drastic in terms of …what you have to do… an example is the 41/2 inches to cover a corner for instance, have you ever tried to bite a corner? The more parameters like that into the law the more expensive it gets."*

Areas that have been identified by the SAC for continued action and future investigation include:

*Reviewing how BEHA/CLPPP Defines and Identifies High-Risk Properties*

- Defining high-risk property
- Using GIS mapping to target resources in neighborhoods identified as high-risk

*Revision of the MA Lead Law and Policies*

- Simplifying the deleading regulations. For example, just requiring window replacement and an intact standard or using Interim Control standards as the permanent deleading standards

- Creating a separate deleading standard for units with a poisoned child and offering indefinite Interim Control for the remaining units in a multi-family that has fully deleaded a unit with a poisoned child
- Requiring the deleading of the entire property, not just the individual unit
- Including an expiration date on Letters of Compliance and instituting different Letters of Compliance for "lead-free" and "lead-compliant" properties
- Testing the soil, water and other sources of lead
- Demolishing unsalvageable properties
- Defining lead dust as a hazard and requiring dust sampling for initial Letters of Compliance
- Putting a property's lead status on the deed[13]
- Reviewing liability issues for property owner

*Increasing Educational Initiatives*

- Creating community coalitions to advocate, identify, prioritize and provide awareness around non-compliant properties
- Encouraging blood lead screening of children in other units in a multi-family with a lead poisoned child
- Incorporating lead maintenance into regular property maintenance routines
- Including an info packet for property owners in the Elevated Blood Lead Level packets to parents
- Sending educational mailings to neighbors of children with elevated Blood Lead Levels
- Offering free low and moderate risk classes available in multi-languages

*Increasing Enforcement Through Housing Code, AG's Office, HUD and EPA*

- Targeting the enforcement of 1018 (Tenant Notification) with large property owners
- Requiring proof of 1018 compliance with code enforcement cases. If non-compliant then refer them to the Attorney General's office
- Enforcing the Pre-Renovation Rule (406) through EPA, and DLWD
- Initiating the enforcement of deleading standards under consumer protection

*Increasing Enforcement Through BEHA/CLPPP*

- Targeting enforcement toward consistently non-compliant properties

[13] The Massachusetts Association of Realtors (MAR) expressly objects to requiring Realtors to investigate the lead status of properties for sale. They state, "It could be potentially tantamount to telling a home seller that they cannot be trusted to tell the truth about his or her own home. Home buyers are already legally guaranteed the right to conduct a lead inspection if they choose to have one performed. Any attempt to require a realtor to investigate the veracity of statements by their client or to compel a buyer to perform a lead inspection are inequitable and problematic." MACLPP will need to *review* this issue in greater detail before committing to pursue it as part of the strategic plan and will be sure to include MAR in the discussions – see implementation.

- Requiring property owners to comply with orders to correct even if the child moves out
- Reviewing door-to-door code enforcement in high-risk areas
- Promoting consistency and enforcement through the courts

## C. Using Surveillance for Gathering and Evaluating Information

### Key Points

- *Link private lead inspections to blood lead data*
- *Identify High-Risk Areas*
- *Evaluating of Environmental Activities (re-exposure of children due to PCAD, and impact of low and moderate risk deleading)*
- *Screening Rates, Incidence and Prevalence*
- *Quality Assurance Protocols*
- *Research of Other Sources and Background Exposures*

### Overview

Surveillance data are critical to the day-to-day program operations, for prioritizing and directing resources, evaluating program effectiveness, and developing policy. The foundation of Massachusetts' statewide surveillance system is the regulation requiring that all blood test results for children under 72 months be reported to the State Laboratory Institute (SLI) electronically within 5 business days (3 days in the case of a poisoned child)[14]. Approximately 250,000 blood lead test results from 68 laboratories and on-site providers are entered into CLPPP's database annually. This database is child-specific and includes demographic information as well as information on residence, health care provider, and insurance. Unique identifiers exist both for children and for addresses, and quality assurance includes data entry and import edit checks. Reporting labs use standardized codes provided by CLPPP to report blood test results.

To identify subpopulations of children who may be underscreened, CLPPP is developing partnerships with other agencies that collect data on children. A data-sharing agreement between MACLPPP and the state's Medicaid agency (Division of Medical Assistance, DMA) was finalized in October 2003. Annual and quarterly exchange of data between the two agencies will enable CLPPP to ensure that this particularly vulnerable population, estimated to include over 173,236 children (almost 39% of the under-72 month population)[15], receives appropriate screening and follow-up care, as well as to determine specific screening and incidence rates in this population as a whole. In the second and third years of the strategic plan, CLPPP will explore similar data exchange agreements with the MDPH's Women, Infants, and Children (WIC), Immunization, and Vital Records programs.

MACLPPP staff work with BEHA Environmental Epidemiology Program to perform trend analyses for all Massachusetts communities and generate reports on the prevalence and incidence of blood lead levels. These reports are disseminated annually to

[14] The electronic reporting requirement may be waived for labs reporting a small volume of test results.
[15] Mass. Division of Medical Assistance, 2002 data

health care providers, high-risk communities, and other interested parties. Since 1997, CLPPP has been successfully submitting data to CDC for inclusion in the National Lead Surveillance System (NLSS). Our surveillance data are also used to determine contractual obligations with sixteen community-based organizations in high-risk areas to provide in-home counseling and community health education.

CLPPP regulations also require the reporting of all initial public and private lead paint inspections, notification of all lead abatement, and submission of all compliance and post-compliance inspections.

Three years ago, CLPPP initiated a tri-state (Connecticut, Rhode Island, and Massachusetts) data management project designed to significantly improve our ability to utilize the data we collect. The new system will soon be fully integrated, allowing us to link the 6,080,969 records in our blood lead database with over 254,363 records in the program's environmental databases. The system is HIPAA-compliant, and meets all CDC data structures required for transfer of CLPPP data to the NLSS. All addresses (both those associated with children who have been screened and those that have been inspected or deleaded) will be geocoded, allowing staff members to use ArcGIS software from ESRI to better analyze pockets of potential lead hazards and coordinate outreach and education within such areas.

In addition to facilitating report and correspondence generation, the new system allows for electronic tracking of case progress, an evaluation of the effects of lead hazard removal on children's lead levels, the creation of a registry of lead-safe housing, and the identification of geographic areas of increased risk where targeted code enforcement and health education efforts could be optimal in preventing new cases of poisoning. Using one Massachusetts high-risk community as a model, a recent project to identify indicators of health risk was conducted. Results showed that with regard to blood lead exposure, children with elevated BLL could be linked through the use of the existing CLPPP database to former residential addresses and therefore serve as indicators of residences that have posed consistent lead exposure risk over time. Such tracking could be adopted in the future as part of the CLPPP's pro-active lead poisoning prevention program at the statewide level. Of particular advantage is CLPPP's current initiative to use geocoding technology for the location of addresses in Massachusetts that have been shown not to be compliant with lead safety. These addresses and or neighborhoods could be targeted for resources to prevent future lead exposure among new residents.

By combining efforts with two other New England states, it will also be possible to perform more extensive, regional data analyses. CLPPP staff have cleaned and normalized over 200,000 individual pieces of data in preparation for conversion of data to the new system. As a result, areas where quality control measures need to be enhanced have been identified, and CLPPP will be formalizing these into a new quality assurance protocol during the next year.

CLPPP will continue to work with the BEHA Environmental Toxicology Program and other CDC CLPPP programs to do risk analysis of other sources of lead such as water, soil and consumer and building products. As new sources continue to be exposed, we will expand our educational initiatives with families regarding the sources.

Plan elements in need of future action include:

*Link private lead inspections to blood lead data*

- Emphasizing the need for accurate and complete address reporting in all lead inspector refresher and initial training courses
- Implementing enhanced quality control procedures by data entry staff, including returning incomplete or inaccurate reports to inspectors for correction and resubmission
- Utilizing resources available from www.leadsafehomes and CEH GIS Center to improve data quality

*Identify High-Risk Areas*

- Geocoding and mapping data from high-risk communities
- Linking blood lead data to other socio-economic indicators and to Medicaid screening data

*Evaluation of Environmental data*

- Creating a model to identify properties that may cause multiple blood lead elevations
- Analyzing results of HUD/NCHH Final Lead Hazard Control Program Evaluation including Boston and other Massachusetts data
- Linking blood lead data to properties where low and/or moderate risk homeowner abatement has been conducted to determine effect

*Screening rates, Incidence and Prevalence*

- Expanding FY04 Annual Report of Screening and Incidence to include reporting of blood lead levels 10 μg/dL and greater
- Analyzing Medicaid blood lead screening and incidence every six months
- Mapping blood lead levels 10 μg/dL or greater in high-risk communities

*Quality Assurance protocols*

- Hiring a consultant research assistant to assist with quality assurance
- Continuing bi-monthly meetings of CLPPP, BEHA Epidemiology, and State Lab staff to discuss blood lead reporting quality assurance
- Including quality assurance information in annual mailing to medical providers

*Research of Other Sources and Background Exposures*

- Hiring an Environmental Analyst to research other sources including junk jewelry for the BEHA Toxicology Program
- Coordinating with other BEHA staff working on CDC Environmental Health Tracking grant to collect and analyze data at lead smelter, air monitoring and other environmental exposure sites

## D. Expanding Resources

**Key Points**

- *Increased Systematic Collaboration through the use of Community Mobilization Networks*
- *Continuing to engage Graduate Students from Institutions of Higher Education*
- *Expanding CLPPP's resources available to the public through the WEB and Lead Safe Registry*

**Overview**

*Lead Safe* Community Mobilization Networks (CMNs)[16] will be created to educate, mobilize, and partner with community agencies, organizations, and individuals to create lead safe communities. CMNs will promote and support community-based efforts aimed at: raising public awareness and knowledge of lead poisoning prevention; increasing screening rates; and targeting high-risk properties to make them lead safe. In order to form partnerships to plan and implement effective approaches for addressing lead poisoning, the CMNs must be knowledgeable about: the socio-demographic characteristics; lead poisoning incidence and screening rates; and health status indicators relevant to the communities they serve.

Community Mobilization Networks will work with CLPPP to reframe lead poisoning prevention as the collaborative responsibility of the entire community. To accomplish its goals, CMNs will recruit a network of diverse community partners, including: health and human services providers; volunteer and civic organizations; business and community leaders; property owners; local officials; tenant organizations; spiritual leaders; parents of lead poisoned children; and others who will implement local strategies for preventing lead poisoning. One of the main goals of the CMNs will be to expand on the community's current capacity by increasing local resources through sponsors such as Home Depot grants or federal HUD and/or EPA funds.

MACLPPP is committed to being resourceful and using every means available to increase resources. In our efforts to highlight the benefits of deleading and create social norms that "most property owners are deleading," we will continue to find creative ways to collaborate and emphasize children's safety and *investments* instead of expenditures. Any cohesive strategic plan needs to keep an eye on the future while implementing the day to day activities.

[16] Lead Safe Community Mobilization Networks are modeled after the successful Tobacco Free Community Mobilization Networks implemented in Massachusetts.

# Massachusetts Strategic Plan to End Lead Poisoning by 2010

## IMPLEMENTATION

As CLPPP provides statewide leadership and advocacy for policy changes in the implementation of the strategic plan, we must also support specific actions at the community level, especially those communities at highest risk for lead poisoning. On a statewide level, CLPPP will continue its high standard of primary prevention activities, working with high-risk properties, statistical gathering and analysis through Kyran and capacity building (see Appendix E for a list of CLPPP goals and objectives). In addition, CLPPP will work to encourage more effective action by property owners, specifically by creating a "lead safe" standard and increasing and promoting financing[17]. CLPPP will initiate the necessary actions to begin those processes, while simultaneously working on a community level through *Lead Safe* Community Mobilization Networks (CMNs).

On a statewide level, modifying deleading regulations and compliance is a lengthy legal process. We will begin by forming a committee charged with reaching consensus about what the actual proposed changes would be. Evaluation of current regulations and recommendations would also be part of the process to happen in year one and two. In year three we would begin the state protocols, including public hearings with an expected regulation modification to pass by the end of year four. The process would be similar, but less complex with the financing piece. Year one would focus on evaluating and reviewing current practices and finalizing proposed changes. The actual implementation of proposed financing changes would happen near the end of year two with educational initiatives continuing in years three through five.

On the local level, *Lead Safe* CMNs will be funded through the Lead Education Trust and the MCH Block Grant, currently supporting 16 community grantees. CLPPP health education staff and local CLPPP community grantees will provide technical support and coordinate the *Lead Safe* CMN, which will include local decision makers, as well as key community members. A new RFR will be put out in year one to recruit contracted grantees able to assist with creating, supporting and maintaining a CMN. A scope of service, work plan with annual goals and objectives and contract will be in place for all contracted grantees by FY05.

From experience, MACLPPP has found that a phased-in approach works best with statewide initiatives implemented on the local level. *Lead Safe* CMNs will initially be formed in the four high-risk communities of Fitchburg, Lawrence, New Bedford, and

[17] These strategies were ranked the highest priority by the SAC.

Holyoke with the goal of creating *Lead Safe* communities by 2010. The *Lead Safe* CMN will assist the communities in becoming *Lead Safe* by systematically working to increase screening rates, to make more homes lead safe, and to implement primary prevention activities. Our goal is to have effective Lead Safe CMNs in all high-risk communities by 2010.

In year two, after the CMNs are up and running, MACLPPP is committed to gathering more information about whether parents respond differently to being told that a child is lead poisoned rather than being told that a child has an elevated blood lead level. We would do this by working on the local level by piloting and evaluating an educational intervention strategy with families and medical providers. *Community Health Workers* would provide home visits to families with children of lead levels of 10-14 μg/dL and stress recent studies and concerns over lower lead levels. Local pediatricians would also be educated regarding this issue. Currently children with lead levels of 10-14 μg/dL only receive education by mail. Result would be evaluated for types and timeframes of interventions implemented, and timely re-screening of children. The data would be compared to another similar community in Massachusetts without any interventions. Results would be considered in any future actions regarding lowering the lead poisoning level in Massachusetts.

| Obj. | 2010 Objective | Proposed Statewide Strategies | Year 1 | 2 | 3 | 4 | 5 | Evaluation Measures |
|---|---|---|---|---|---|---|---|---|
| **Encouraging Effective Action by Property Owners** | 100% of homes identified to have lead hazards will be made lead safer | *Modify Deleading Regulations:* Consider window replacement and an intact standard or use Interim Control standards as the deleading standards; Consider a separate deleading standard for units with a poisoned child; or offer indefinite Interim Control for the remaining units in a multi-family that has fully deleaded a unit with a poisoned child; Consider the deleading of the entire property, not just the individual unit | **X** | **X** | **X** | **X** | **X** | By year two, committee has finalized modification recommendations. |
| | | *For Letters of Compliance (LOC):* consider including an expiration date; different LOC for "lead-free" and "lead-compliant" properties; defining lead dust as a hazard; dust sampling for initial LOC | | | **X** | **X** | | By year four, new regulations are promulgated. |
| | | Review restructuring of liability issues for property owners (to support deleading) | **X** | **X** | | | | |
| | | Explore regulating soil, water and other sources of lead | **X** | **X** | | | | 90% of identified homes are in compliance with new lead safer standard |
| | | Explore putting a property's lead status on the deed | **X** | | | | | |
| | | Explore demolishing unsalvageable properties | | | | **X** | **X** | |
| | | *Create Educational Campaigns:* To inform property owners of any regulatory changes, and of available options for compliance | | **X** | **X** | **X** | **X** | |
| | 100% of eligible property owners in high-risk communities receive financial assistance when requested | Increase the income eligibility requirements for financial assistance programs and revise the total loan amounts allowed to better reflect deleading costs | | **X** | | | | 90% of eligible property owners in high-risk communities receive financial assistance |
| | | Provide the financial assistance for making homes "lead safer" | | | **X** | | | |
| | | Increase the tax credit and provide a tax credit for lead safer repairs | | | | **X** | | |
| | | Create educational campaign to inform property owners of available financing | **X** | | | | | |

| Obj. | 2010 Objective | Proposed Local Strategies | Year 1 | 2 | 3 | 4 | 5 | Evaluation Measures |
|---|---|---|---|---|---|---|---|---|
| **Create *Lead Safe* Community Mobilization Networks in targeted communities** | Increase Screening Rate to 100% | Contact all medical providers, inform of plan and encourage active participation; MACLPPP to provide statistics, regulatory follow-up for non-compliant doctors | **X** | **X** | **X** | **X** | **X** | Screening rate increases to 100% |
| | | Refill brochures in all health providers offices biannually | **X** | | | | | 100% of MD's contacted |
| | | Provide Grand rounds biannually | **X** | **X** | **X** | **X** | **X** | Grand Rounds held twice per year |
| | | Continue with prenatal educational campaign | **X** | | | | | |
| | | Increase MACLPPP home visiting to lead levels of >10 µg/dL to increase retesting and follow-up screening of elevated children | **X** | | | | | Compare children who receive home visit to see if they have better re-screening compliance |
| | | Work with coalition to implement local strategies relevant to their community | **X** | **X** | **X** | **X** | **X** | |
| | 80% of high-risk homes with children that are identified to have lead hazards will be made lead safer | Provide technical assistance to local community coalitions to apply for HUD, EPA and other grant funding | **X** | **X** | | | | Local resources for lead safe housing increase by as needed % in community |
| | | Assist with search for funding to demolish unsalvageable properties | **X** | **X** | | | | |
| | | Work in collaboration with statewide initiatives for funding and regulatory changes | | **X** | **X** | | | Compare and review CHW remediation info |
| | To provide systematic education and outreach to 100% of targeted populations | Evaluate systematic educational campaigns to childcare providers, realtors, property owners, BOH's for replication of most successful models in other communities | **X** | **X** | | | | Attendees show 15% increase in knowledge after attending trainings. |
| | | Increase Lead Week activities and focus on renovate safely theme | **X** | **X** | **X** | **X** | **X** | Lead Week activities increase by 2 events per year in targeted community |
| | | Reframe LPP to be seen as a collaborative responsibility linking property owners, tenants, parents of poisoned children, political leaders, bankers, realtors and community members through CMN and local media campaigns | **X** | **X** | **X** | **X** | **X** | CMN able to function effectively without CLPPP coordination |